International Journal of Technology, Management and Social Sciences (IJTMSS)
[ISSN: 2583-8482]
Volume 4_Issue 3 [July-Sept 2026]

Dairy Development and Its Contribution to Rural Economic Growth in Bihar

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Abstract

Dairy farming is an important component of Bihar's rural economy, providing income, employment and livelihood opportunities to rural households. This study examines the development of the dairy and livestock sector in Bihar using secondary data from the Directorate of Animal Husbandry and Dairying, Government of Bihar, along with relevant government reports and publications. The study analyses trends in livestock resources, milk production, animal health services and major government initiatives supporting dairy development. The findings show that total livestock increased from 26.96 million in 2003 to 36.54 million in 2019, while milk production increased from 98.18 lakh tonnes in 2018–19 to 128.53 lakh tonnes in 2023–24, indicating considerable expansion of the sector. The study further highlights the role of veterinary services, artificial insemination, farmer training, financial assistance, cooperative development and dairy marketing infrastructure in strengthening Bihar's dairy sector. Artificial insemination increased from **36.76 lakh in 2019–20 to 44.76 lakh in 2023–24**, while **5,873 dairy units** were established under the Samagra Gavya Vikas Yojana during 2021–22 to 2023–24.

Keywords: *Dairy Farming; Dairy Development; Milk Production; Livestock Development; Animal Husbandry*

Submitted: July 20, 2026 **Revised:** August 25, 2026 **Accepted:** September 5, 2026 **Published:** September 15, 2026

DOI: 10.5281/zenodo.23076485





1. Introduction

Dairy farming and livestock activities constitute an important part of Bihar's rural economy. In a state where a large proportion of the population depends directly or indirectly on agriculture, dairy farming provides an additional and relatively regular source of income and employment for rural households. It also contributes to livelihood diversification, food and nutritional security, and the economic participation of small and marginal farmers. The development of dairy farming is therefore closely associated with the broader process of rural economic development in Bihar. The livestock base of Bihar has expanded considerably over the years. According to the data presented in the study, **total livestock increased from 26.96 million in 2003 to 36.54 million in 2019**, representing an increase of about **35.5 percent**. The cattle population increased from **10.47 million to 15.40 million** during the same period, while the goat population increased from **9.61 million to 12.82 million**. Particularly noteworthy is the increase in female cattle from **3.64 million in 2003 to 7.15 million in 2019**, which has important implications for the expansion of milk production and dairy farming (NDDB, 2023). The expansion of the livestock base has been accompanied by a steady increase in milk production. Milk production in Bihar rose from **98.18 lakh tonnes in 2018–19 to 128.53 lakh tonnes in 2023–24**, representing an increase of approximately **30.9 percent**. During the same period, egg production increased from **176.33 crore to 344.00 crore**, while fish production increased from **6.02 lakh metric tonnes to 8.73 lakh metric tonnes**. These

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trends demonstrate the increasing contribution of dairy, livestock and other allied activities to the diversification of Bihar's rural economy. The development of dairy farming also depends on the availability of appropriate animal health and breeding services. In Bihar, animal treatment, immunization and artificial insemination are important interventions for improving livestock health and productivity. The number of animals treated increased to **55.57 lakh in 2023–24**, while artificial insemination reached **44.76 lakh** in the same year (NPDD, 2026). Such services can contribute to better breeding practices, improved animal productivity and sustainable growth of the dairy sector. Under the **Samagra Gavya Vikas Yojana**, **5,873 dairy units** were established during 2021–22 to 2023–24, while **18,401 stakeholders** received training in modern scientific dairying during the same period. The expansion of milk cooperative societies and marketing centres further indicates efforts to strengthen the organized dairy sector and improve farmers' access to markets.

2. Review of Literature

The literature on dairy development in Bihar indicates that livestock and dairy farming are important components of rural livelihoods and agricultural diversification. **NDDB (2014)** examined the smallholder dairy value chain in Bihar and highlighted the importance of milk collection, cooperative institutions, market access and dairy infrastructure in strengthening smallholder dairy producers.

The **Department of Animal Husbandry and Dairying (2023)**, through the *20th Livestock Census 2019*, provides evidence on the changing livestock structure of Bihar and India. The livestock data are particularly useful for examining changes in cattle, buffalo, goat and other livestock populations. Similarly, the **National Dairy Development Board (2022, 2023)** reports provide information on dairy development and cooperative activities, helping to understand the institutional development of the dairy sector.

The **Government of Bihar's Economic Survey (2025)** and publications of the Department of Animal Husbandry and Dairying provide recent information on milk production, animal health services, dairy schemes and government interventions. However, the existing literature and official reports largely focus on livestock numbers, production and institutional programmes. Therefore, the present study attempts to bring these dimensions together to examine the **development of dairy farming and its contribution to rural economic growth in Bihar**.

3. Objective of the Study

The objectives of the study are:

- To examine the trends in livestock resources and milk production in Bihar state of India
- To analyse the development of animal health, immunization and artificial insemination services
- To examine the role of government schemes and programmes in promoting dairy farming
- To assess the role of dairy cooperatives, marketing infrastructure and related institutions in strengthening the dairy sector and rural livelihoods of India

4. Research Methodology

The study is based entirely on **secondary data** and follows a descriptive and analytical research design to examine the development of dairy farming and its contribution to rural economic development in Bihar. The major sources of secondary data include the Directorate of Animal Husbandry and Dairying, Government of Bihar, particularly data on livestock population, milk production, animal treatment, immunization and artificial insemination; Government of Bihar's Economic Survey and other official statistical publications; the Department of Animal and

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Fisheries Resources and Department of Dairy Development, Government of Bihar for information on dairy schemes, programmes and institutional development; the Department of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry and Dairying, Government of India, including *Basic Animal Husbandry Statistics*, *Livestock Census*, and other programme reports; National Dairy Development Board (NDDB) reports for dairy development and cooperative-related information; Bihar State Milk Co-operative Federation (COMFED) for information related to milk procurement, processing, cooperatives and marketing; and relevant government reports, research studies, academic journals, books and other published secondary sources.

5. Animal Husbandry, Dairy Farming and Fisheries in Bihar

Animal husbandry, dairy farming and fisheries are important components of Bihar's rural economy. These allied activities support agricultural households by providing additional sources of income, employment and livelihood. Livestock-based activities also contribute to food and nutritional security and help rural families diversify their economic activities beyond crop cultivation. Dairy farming has particular importance in Bihar because it provides regular income to rural households and creates opportunities for small and marginal farmers. The development of milk collection, processing, veterinary services, cooperative institutions and marketing infrastructure has strengthened the dairy sector. The development of animal husbandry, dairy farming and fisheries can play an important role in improving rural livelihoods and strengthening the agricultural economy of Bihar.

Table 01: Details of Size of Animal Resources in Bihar, 2003, 2007, 2012 and 2019

Figures in million

Livestock & Poultry	2003	2007	2012	2019
Cattle	10.47	12.41	12.23	15.40
├─ Males over 3 years	3.02	2.74	1.92	1.35
├─ Females over 3 years	3.64	4.92	5.98	7.15
└─ Young stock	3.81	4.75	4.33	6.90
Buffalo	5.77	6.69	7.57	7.72
├─ Males over 3 years	0.27	0.33	0.30	0.46
├─ Females over 3 years	2.90	3.55	4.02	3.67
└─ Young stock	2.59	2.82	3.25	3.59
Sheep	0.35	0.22	0.23	0.21
Goat	9.61	10.17	12.15	12.82
Pigs	0.63	0.63	0.65	0.34
Horses and Ponies	0.12	0.05	0.05	0.03
Others	0.00	0.00	0.06	0.01
Total Livestock	**26.96**	**30.17**	**32.94**	**36.54**
Total Poultry	**13.97**	**11.42**	**12.75**	**16.53**

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(Source: Directorate of Animal Husbandry and Dairying, Government of Bihar, 2019)

The table 01 shows a **substantial expansion of Bihar's livestock resources between 2003 and 2019**. Total livestock increased from **26.96 million to 36.54 million**, indicating an overall rise of about **35.5 percent**. Cattle increased considerably, particularly female cattle, while the buffalo population also expanded. The goat population showed a steady rise throughout the period and reached 12.82 million in 2019. These trends indicate the growing importance of livestock as an important component of Bihar's rural and agricultural economy. The composition of livestock also reveals some important structural changes. The number of male cattle over three years declined, whereas the number of female cattle increased substantially, which is particularly relevant for dairy development because female cattle are directly associated with milk production. In contrast, sheep, pigs, and horses and ponies declined over the period. Poultry also showed an overall increase from 13.97 million in 2003 to 16.53 million in 2019, although there was a temporary decline during 2007 and 2012.

Table 2: Livestock and Fish Production in Bihar (2018–19 to 2023–24)

Year	Milk (lakh tonnes)	Egg (crores)	Wool (lakh kg)	Meat (lakh metric tonnes)	Fish (lakh metric tonnes)
2018–19	98.18	176.33	3.12	3.64	6.02
2019–20	104.83	274.08	3.10	3.83	6.41
2020–21	115.01	301.32	1.70	3.85	6.83
2021–22	121.19	306.66	1.72	3.92	7.62
2022–23	125.03	327.43	1.75	3.96	8.46
2023–24	128.53	344.00	1.74	4.04	8.73

Source: Directorate of Animal Husbandry and Dairying, Government of Bihar.

The table 02 indicates a continuous increase in milk production in Bihar during the period 2018–19 to 2023–24. Milk production increased from 98.18 lakh tonnes to 128.53 lakh tonnes, representing a growth of approximately 30.9 percent. This upward trend reflects the growing importance of dairy farming and livestock-based activities in the state. The increase in milk production also indicates the expanding role of dairy farming in supporting rural income, employment and livelihood opportunities. Egg and fish production also recorded substantial growth during the period. Egg production increased from 176.33 crore to 344.00 crore, an increase of about 95.1 percent, while fish production increased from 6.02 lakh metric tonnes to 8.73 lakh metric tonnes, registering growth of about 45 percent. Meat production also increased moderately from 3.64 to 4.04 lakh metric tonnes. In contrast, wool production declined from 3.12 to 1.74 lakh kg.

6. Dairy Farming and Animal Health Services in Bihar

Dairy farming is an important component of Bihar’s rural economy, and the Directorate of Animal Husbandry and Dairying plays an important role in improving the health and productivity of animal resources. The major services provided by the Directorate include animal treatment, immunization and artificial insemination. During **2023–24**, six districts **Madhubani, Patna, East Champaran, Gaya, Samastipur and Bhagalpur** reported treatment of more than two lakh animals each. This indicates the increasing coverage of veterinary and animal health services

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among livestock owners. Immunization was particularly high in Gaya, Madhubani and Purnea, highlighting greater attention to disease prevention and animal health in these districts.

Table No. 3: Livestock Services in Bihar, 2019–20 to 2023–24

Year	Animal Treated (lakh)	Immunization (lakh)	Artificial Insemination (lakh)
2019–20	45.47	615.77	36.76
2020–21	40.24	49.96	36.29
2021–22	36.80	217.23	38.15
2022–23	35.92	509.61	44.83
2023–24	55.57	430.89	44.76

Source: Directorate of Animal Husbandry and Dairying, Government of Bihar.

The table 03 presents the development of major livestock services in Bihar during 2019–20 to 2023–24, covering animal treatment, immunization and artificial insemination. The number of animals treated declined from 45.47 lakh in 2019–20 to 35.92 lakh in 2022–23, but increased substantially to 55.57 lakh in 2023–24. This indicates an expansion in the provision and utilization of animal healthcare services during the latest year of the period. Immunization shows considerable variation across the years, with the highest reported level of 615.77 lakh in 2019–20. After a sharp decline in 2020–21, immunization increased substantially in subsequent years and reached 430.89 lakh in 2023–24. The variation may reflect differences in vaccination programmes and coverage across years. Artificial insemination shows a generally positive trend, increasing from 36.76 lakh in 2019–20 to 44.76 lakh in 2023–24, despite a small decline between 2022–23 and 2023–24. The expansion of artificial insemination services is important for improving breeding practices and livestock productivity.

7. Government Initiatives for Dairy and Livestock Development in Bihar

The Government of Bihar has undertaken several initiatives to promote **dairy farming, indigenous cattle development, livestock insurance, milk cooperatives, marketing infrastructure and allied livestock activities**. The major initiatives described in the source are discussed below:

Samagra Gavya Vikas Yojana : Under the Samagra Gavya Vikas Yojana, the State Government has approved financial assistance for establishing dairy units consisting of 2, 4, 15 and 20 high-breed milk cattle/heifers. In 2024–25, an amount of ₹48.48 crore was approved under the State Plan for establishing these dairy units. A subsidy of 75 percent is provided to dairy farmers belonging to EBC, SC and ST categories, while other dairy farmers are eligible for a 50 percent subsidy. For units consisting of 15–20 cattle, a 40 percent subsidy is provided to beneficiaries for establishing dairy units. The implementation of the scheme during 2021–22 to 2023–24 resulted in the establishment of 5,873 dairy units, against a physical target of 7,194 units. During this period, ₹102.56 crore was disbursed against the targeted amount of ₹106.98 crore.

Training and Capacity Building of Dairy Farmers: The estimated expenditure for free training in modern scientific dairying to dairy farmers was ₹7.99 crore. During 2021–22 to 2023–24, a total of 18,401 stakeholders received training at national-level institutions. The State Government disbursed ₹10.61 crore against the targeted expenditure of ₹11.64 crore.

Desi Gau Palan Protsahan Yojana: The Desi Gau Palan Protsahan Yojana, implemented under Saat Nishchay-2, focuses on promoting dairy units based on indigenous cows and heifers. In 2024–25, approval was granted for establishing dairy units consisting of 2 and 4 indigenous cows/heifers,

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with an estimated implementation cost of ₹25.46 crore. Under the scheme, beneficiaries belonging to EBC, SC and ST communities receive a 75 percent grant, while other beneficiaries receive a 50 percent grant for establishing eligible units.

Livestock Insurance Scheme: Livestock insurance has also been incorporated under **Saat Nishchay-2** to provide financial protection to dairy farmers against the loss of milk cattle due to death, illness or other specified causes. In 2024–25, an insurance scheme for milk cattle was approved with an estimated cost of **₹2.99 crore**. During 2023–24, 3,947 milk cattle were insured, achieving 79 percent of the target, while expenditure under the scheme amounted to ₹1.35 crore.

Formation of Milk Producers' Cooperative Committees: Under **Saat Nishchay-2**, approval was given for establishing milk cooperative societies in **7,000 villages** at a total cost of **₹56.00 crore** over four years, from 2021–22 to 2024–25. An important feature of this initiative is that 40 percent of the proposed milk cooperative societies are required to be women-led committees. For 2024–25, COMFED, Patna planned to establish **2,000 milk cooperative societies** with an expenditure provision of **₹14.00 crore**.

Expansion of Dairy Marketing Infrastructure: The State Government has also focused on strengthening the milk and dairy-product marketing network in both rural and urban areas. Under Saat Nishchay-2, approval was granted for expansion of the marketing system at a cost of ₹30.10 crore over four years (2021–25). For 2024–25, ₹7.53 crore was allocated for establishing 150 new marketing centres. COMFED, Patna has also been establishing Sudha product sales counters at municipal, corporation and block levels.

Promotion of Goat Rearing: Along with dairy farming, **goat rearing has gained increasing importance** as an allied rural economic activity in Bihar. The Directorate has introduced various schemes to encourage people to establish goat-rearing farms of different sizes and capacities. For 2023–24, the State Government aimed to establish **590 goat-rearing farms** and allocated **₹1,755.99 lakh** for this purpose.The government has also made provisions for distributing female goats to families below the poverty line (BPL). Through JEEVIKA, the 2023–24 target included providing three breedable female goats per family to 3,941 families. The expected expenditure for this programme was ₹522.85 lakh.

8. Conclusion

The study highlights the growing importance of animal husbandry and dairy farming in Bihar's rural economy. The livestock base expanded substantially, with total livestock increasing from 26.96 million in 2003 to 36.54 million in 2019. More importantly, milk production increased consistently from 98.18 lakh tonnes in 2018–19 to 128.53 lakh tonnes in 2023–24, registering growth of about 30.9 percent. This indicates the expanding role of dairy farming in rural income, employment and livelihood diversification. The study also indicates that improvements in animal healthcare, breeding services, training, financial assistance, cooperatives and marketing infrastructure are supporting dairy development in Bihar. Artificial insemination increased from 36.76 lakh in 2019–20 to 44.76 lakh in 2023–24, while 5,873 dairy units were established under the Samagra Gavya Vikas Yojana during 2021–22 to 2023–24. The formation of milk cooperatives, expansion of marketing centres and support for indigenous cattle further strengthen the organized dairy sector. Bihar possesses considerable potential for further development of the dairy sector. The development of dairy farming, together with other livestock and allied activities, can therefore make an important contribution to rural development and livelihood security in Bihar.

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